

DOCKET NO.: MSFT-3488/307555.01
Application No.: 10/825,035
Office Action Dated: April 16, 2008

PATENT
REPLY FILED UNDER EXPEDITED
PROCEDURE PURSUANT TO
37 CFR § 1.116

REMARKS

Claims 1-5 and 13-16 remain pending in the present application as amended and have been finally rejected. Claims 1 and 13 have been amended. No claims have been added. No new matter has been added.

Telephone Conversation With Examiner

Examiner Broome it thanked for the telephone conversation conducted on June 16, 2008. Proposed claim amendments were discussed. No agreements were reached.

Claim Rejections

The Examiner has again rejected the claims under 35 U.S.C. § 102(b) as being anticipated by Skyrme (“Full Product Review Adobe Live Motion”). Applicants respectfully traverse the Section 102 rejection insofar as it may be applied to the claims as amended. In particular, Applicants respectfully submit that such reference fails to disclose or even suggest both the attribute key frame and object key frame as recited in independent claims 1 and 6 as amended.

As pointed out at paragraphs 0002-0004 in the background section of the present application, the industry standard for animation authoring tools uses a key frame, which is defined as a point in time, and a set of property changes that occur at that point in time. The properties, also referred to as attributes, can be anything from the color of an object to the entire contents of the scene, for example. Some tools, such as Macromedia Flash, represent key frames at the layer level and store the entire state of all objects in the layer at that point in time. As should be appreciated, the layer level represents a layer of animation and includes one or more objects that reside within the layer. Other tools, such as Adobe Live Motion, represent key frames on the attributes of an object (i.e., where each attribute has its own key frame as needed) so that an indicator is stored on every property of an object which tells whether or not the property is animated. Both approaches have several drawbacks.

One drawback of representing key frames at the layer level and storing the entire state of all objects in the layer at that point in time is that it is difficult for the user to determine from the user interface which properties are being animated on any particular object. Another drawback of this approach is that it is very difficult for the user to animate the value of a property across one of these key frames. In contrast, the approach of representing key frames only on the attributes of an object (as is the case with the Adobe LiveMotion product that has been cited by the Examiner) has a drawback that in order to animate any property on an object, the user must search through a list of all properties on the object, and set the switch that makes that property animated, allowing key frames to be stored for that property. Furthermore, this approach requires the user to select or click a button on each property that he desires to animate. This can be cumbersome when trying to author an animation. Moreover, using this approach it is difficult to quickly determine at what times particular properties of an object are being animated, if the user cannot see all of the properties for the element on screen.

Thus, the prior art has defined key frames either ‘coarsely’ at the layer level that encompass all properties / attributes of all objects at the layer level, or else ‘finely’ at the attribute level that encompass only an attribute of a particular object, both of which result in corresponding problems. Accordingly, in the present application, a key frame is defined at an ‘intermediary’ object level that encompasses all attributes of a particular object.

In particular, independent claim 1 as amended recites a method of keyframing an object implemented at least in part by a computer. As amended, claim 1 specifies that the object is an animation object in an animation that includes one or more displayed layers, where each layer includes one or more displayed objects, and each object can be described by one or more properties / attributes (‘properties’).

At least one property and a time for the object are identified, and a first compound key frame is created at the time. A second time is then created for the object, as is a second compound key frame at the second time, but a change to the at least one property is received prior to creating the second compound key frame. Thus, the second compound key frame incorporates the change to the at least one property. Responsive to the received change to the at

least one property, an attribute key frame is created if no attribute key frame exists for the at least one property at the time the received change is received, or an existing attribute key frame is changed if the existing attribute key frame exists at the time the received change is received.

As amended, claim 1 further recites the distinction between a compound key frame and an attribute key frame. In particular, claim 1 recites that each attribute key frame is a key frame *implemented at a level corresponding to the properties of the object and specific to the at least one property of the object, and each compound key frame is a key frame implemented at a level corresponding to the object and specific to all possible properties of the object.* That is, a compound key frame is an intermediary sort of key frame, as was discussed above, and encompasses all possible properties or attributes of a particular object, while an attribute key frame is a fine sort of key frame, as was also discussed above, and encompasses only the at least one property of the object.

As a result, an attribute key frame focuses only on a particular attribute of a particular object while a compound key frame focuses on all attributes of a particular object.

Correspondingly, an attribute key frame is employed when only a particular attribute is to be manipulated at the time of a key frame, while a compound key frame is employed when multiple attributes are to be manipulated, at the time of a key frame. In amending claim 1 to recite the levels at which the respective key frames are implemented, the Examiner should be aware that Applicants have taken to heart the Examiner's admonition in the Response to Arguments section of the present Office Action that such distinction was previously argued but not recited.

Independent claim 13 as amended recites subject matter similar to that of claim 1 as amended, albeit as a computer system performing a method.

Applicants respectfully submit that Skyrme's perception of the LiveMotion product as set forth in the Skyrme reference clearly does not disclose or even appreciate the distinction between an attribute key frame and a compound key frame, as is now specifically recited in claims 1 and 13. Moreover, as was set forth above and in the background section of the present application, the LiveMotion product is known to employ the attribute key frame only, which is used at an attribute level and with regard to a particular attribute of a particular object, and is not known to

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employ a compound key frame which is used at an object level and with regard to all attributes of a particular object.

Further, the Skyrme reference and the LiveMotion product do not even show any appreciation for the need for such a compound key frame which is used at an intermediary object level and with regard to all attributes of a particular object. Specifically, the Skyrme reference and the LiveMotion product do not show any understanding of the drawbacks of a key frame at a coarse layer level or of an [attribute] key frame at a fine layer level, as was set forth above, or that such drawbacks might be alleviated by a compound key frame at an intermediary object level. At any rate, inasmuch as Skyrme's perception of the LiveMotion product as set forth in the Skyrme reference clearly does not disclose or even appreciate the recited distinction between an attribute key frame and a compound key frame, as is set forth in claims 1 and 13, the Skyrme reference cannot be employed to anticipate such claims 1 and 13 as amended.

Applicants also again respectfully submit that Skyrme's perception of the LiveMotion product as set forth in the Skyrme reference clearly does not disclose or even appreciate that, responsive to the received change to the at least one property (attribute), an attribute key frame as now specifically recited and distinguished from a compound key frame is created if no attribute key frame exists for the at least one property (attribute) at the time the received change is received, or an existing attribute key frame is changed if the existing attribute key frame exists at the time the received change is received, as is required by claims 1 and 13. For this reason too, the Skyrme reference cannot be employed to anticipate such claims 1 and 13 as amended.

Thus, for all of the aforementioned reasons, Applicants respectfully submit that the Skyrme reference does not anticipate claims 1 or 13 or any claims depending therefrom, including claims 2-5 and 14-16. Accordingly, Applicants respectfully request reconsideration and withdrawal of the Section 102 rejection.

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In view of the foregoing Amendment and Remarks, Applicants respectfully submit that the present Application is in condition for Allowance and such action is respectfully requested.

Respectfully submitted,

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